

# Glossary

*Note: The epidemiologic and surveillance terms in this glossary are defined in the context of this manual, namely surveillance, reporting, and control of infectious disease.*

**Abscess:** Collection of pus in any part of the body.

**Acute:** Having rapid onset and a short duration.

**Acute flaccid paralysis:** Sudden onset of paralysis in which there is loss of muscle tone and loss or reduction of tendon reflexes.

**Active surveillance:** (See also, **surveillance of disease**) Collection or monitoring of disease-related information or other data using methods that place the burden of information collection on the investigator (i.e., using methods by which the investigator directly contacts the source(s) of information or data on a regular basis, as opposed to methods by which the source(s) of information or data are expected to report to the investigator).

**Adenovirus:** Any virus of the family *Adenoviridae* that cause upper respiratory symptoms, acute respiratory disease, conjunctivitis, or gastroenteritis in humans.

**Aerophobia:** Having dread of or strong aversion to a draft of fresh air.

**Aerosolization:** The suspension of extremely small liquid or solid particles in the air.

**Afebrile:** Being without fever.

**Agent:** A microorganism, chemical substance, or form of radiation whose presence, excessive presence, or (in deficiency diseases) relative absence is essential for the occurrence of disease.

**Aggregate:** Collected or grouped.

**Airborne precautions:** Measures designed to reduce the risk of transmission of infectious agents that may be suspended in the air in either small particle aerosols or dust particles. Patients in health care facilities must be given a private room with special air handling and ventilation (negative pressure with respect to the rest of the facility), and an appropriate level of respiratory protection is necessary when entering the patient's room.

**Aliquot:** A part of a whole, as in a sample taken for analysis.

**Anaerobic:** Able to live without oxygen.

**Anamnestic response:** After vaccination or disease, an immunologic memory response that occurs when a subsequent exposure triggers rapid production of antibodies.

**Anaphylactic reaction:** A potentially life-threatening allergic reaction.

**Anemia:** Reduction in the quantity of hemoglobin in the blood. General symptoms include fatigue, pallor, weakness, headache, and malaise.

**Anorexia:** Loss of appetite.

**Antibody:** A protein in the blood that is produced by immune cells in response to an antigen. The antibody may bind to that antigen and provide protection against infection.

**Antigen:** A substance "recognized" by the body as foreign, resulting in the production of an immune response.

**Antigenic drift:** The “evolutionary” changes that take place in the molecular structure of DNA/RNA in microorganisms during their passage from one host to another. This process has been studied in common viruses, notably the influenza virus.

**Antimicrobial:** Able to destroy microbes, to prevent their multiplication or growth, or to prevent their pathogenic action (e.g., antibiotic).

**Anti-toxin:** Antibody, often produced in horses, that is used in humans to confer passive immunity either for prevention or for treatment.

**Apnea:** Absence of respiration.

**Arbovirus:** A member of the group of viruses that are transmitted by arthropods (such as mosquitoes and ticks), including the viruses that cause yellow fever and equine encephalitis.

**Arthralgia:** Joint pain.

**Arthropod:** A member of the primary invertebrate animal family (*Arthropoda*) characterized by bilateral symmetry, a hard, jointed exoskeleton, segmented bodies, and jointed paired appendages. Includes insects, mites, ticks, spiders, and crustaceans.

**Aseptic:** Not involving microorganisms. Aseptic meningitis is actually a misnomer, since it is caused by a virus.

**Aspiration:** Accidental or unintentional inhalation into the airways of fluid or any foreign material, often gastric contents or food.

**Asplenia:** Absence of the spleen or of spleen function.

**Assay:** A quantitative or qualitative analysis; for example, the measurement of the quantity of antibody in a specimen.

**Asymptomatic (or inapparent infection):** Infection without symptoms.

**Ataxia:** Defective muscular coordination, especially when attempting voluntary muscular movements.

**Avian:** Pertaining to or concerning birds.

**Bacteremia:** The presence of bacteria in the blood.

**Bacteriophage:** A virus with a specific affinity to bacteria.

**Bacterium (plural: bacteria):** One-celled living microorganism with a cell wall.

**bdNA (branch chain DNA test):** A test used to assay the presence or the amount of specific RNA or DNA by measuring the attachment to multiple repeat sequences on a branched DNA molecule.

**Benign:** Not progressive or dangerous; the opposite of malignant (e.g., a tumor that does not invade the tissue or spread to distant sites or that is not cancerous).

**Bilateral:** Pertaining to or affecting two sides.

**Bioterrorism:** The deliberate or threatened use of biological agents (viruses, bacteria, fungi, or toxins) to cause illness among a civilian population.

**Bone resorption:** The loss of bony or bone-like tissue.

**Bradycardia:** Slow heartbeat, generally defined as less than 60 beats per minute.

**Branch chain DNA test (bdNA):** A test used to assay the presence or the amount of specific RNA or DNA by measuring the attachment to multiple repeat sequences on a branched DNA molecule.

**Buccal mucosa:** The mucosal linings of the cheek (inside the mouth).

**Carrier:** An individual who can tolerate an infection so as not to become ill and is able to transmit the disease-causing organism to others, to cause infection and illness in others.

**Case or patient:** One who is ill, infected, injured, or diagnosed with a reportable disease or injury.

**Case definition:** A set of standard criteria for a particular disease or health condition for surveillance purposes.

**Case fatality rate:** The proportion of persons diagnosed with a particular disease in a designated time period who die of that disease.

**Cell-mediated immunity:** Immunity due to activation of sensitized T-lymphocytes, rather than due to antibodies.

**Centrifugal:** Moving or directed away from a center or axis.

**Cerebellar ataxia:** Loss of muscle coordination caused by disorders of the cerebellum.

**Chemoprophylaxis:** The use of a chemical, including an antibiotic, to prevent infection or the progression of infection to active disease, or to eliminate the carriage of a particular infectious agent in susceptible individuals.

**Cholecystitis:** Inflammation of the gall bladder.

**Chronic:** A disease or health condition persisting for a long period of time, showing little change or slow progression.

**Cirrhosis:** Chronic liver disease characterized by scarring and loss of liver function.

**Cluster:** Cases closely grouped in time and place, and greater than the number expected.

**Cohort:** A well-defined group of people who have had a common experience or exposure and are then monitored to determine the incidence of disease. In infection control, a group of infected or exposed patients separated from the rest of the patient population to prevent further spread.

**Coinfection:** Condition whereby two different microorganisms simultaneously infect an individual.

**Colonization:** The multiplication of a microorganism on or within a host without tissue or cell invasion. A colonized host can serve as a source of infection but is not symptomatic or ill.

**Common source:** The same person, animal, or vehicle as a source of an outbreak.

**Communicable:** Ability of an infection to be transmitted from one person or animal to another.

**Communicable disease:** An illness due to a specific infectious agent or its toxic products, which is transmitted, either directly or indirectly, from person to person.

**Communicable period:** The period during which an infected person or animal is a potential source of infection to other people or animals.

**Complement fixation assay (also, complement binding assay):** A laboratory test for the detection of immune complexes (antigen-antibody complexes), to determine whether antigen-antibody reactions have occurred.

**Congenital rubella syndrome (CRS):** Birth defects resulting from maternal rubella infection during the first several months of pregnancy.

**Conjunctival suffusion:** Spreading of a bodily fluid into the conjunctiva.

**Constitutional symptom:** A symptom that pertains to the whole body.

**Contact:** A person who has been in such association with an infected person or animal or with a contaminated environment so as to have had exposure capable of transmitting the infection to that person.

**Contact precautions:** Measures designed to reduce the risk of transmission of infectious agents that can be spread through direct contact with the patient or indirect contact with potentially infectious items or surfaces. Gloves and gowns are required for all patient contact and for contact with the patient's environment. Strict hand hygiene practices must also be applied.

**Control:** In epidemiology, a member of the group without disease used as the comparison group in a case-control study.

**Convalescence:** The period of time when one is recovering from a disease, surgical procedure, or injury.

**Cornea:** The clear, transparent anterior portion of the coat of the eye, encompassing about 1/6 of its surface.

**Coronavirus:** A virus in the family *Coronaviridae*. These viruses are associated with upper respiratory tract infections, SARS, and possibly gastroenteritis in humans.

**Coryza:** An acute inflammation of the nasal mucosa, accompanied by profuse nasal discharge (also called "rhinitis").

**Counseling:** Process by which individuals and groups are advised as to how to promote, maintain, and/or restore health. Methods and procedures used in counseling must take account of the ways in which people develop various forms of behavior, of the factors that lead them to maintain or to alter their behavior, and of the ways in which people acquire and use knowledge.

**Cutaneous:** Pertaining to the skin.

**Cyst:** A closed sac or pouch with a definite wall that contains fluid, semifluid, or solid material.

**Cytotoxin:** An antibody or toxin that inhibits or prevents the functioning of cells, causes destruction of cells, or does both.

**Date of last exposure:** The point in time when exposure that would be expected to provide an opportunity for transmission of infection between a case or carrier and a susceptible person ends, or point in time when a case or carrier is no longer capable of transmitting illness or infection to others, whichever was more recent.

**Dead-end host:** An animal or human that can be infected with a pathogen but is incapable of or unlikely to spread it to others.

**Debride:** To remove devitalized (dead) tissue and foreign matter from a wound.

**Definitive host:** In parasitology, the host in which a parasite attains maturity or sexual stage. In malaria, the mosquito is the definitive host.

**Department (also, MDPH):** The Massachusetts Department of Public Health.

**Dermal:** Pertaining to the skin.

**Desquamation:** The shedding of the cuticle in scales or of the outer layer of any surface.

**Diplococci:** Spherical or egg-shaped bacterial cells joined together in pairs. Also the common name of any organism belonging to the former bacterial genus *Diplococcus*.

**Direct fluorescent antibody (DFA):** The detection of antigens through antibodies that are labeled with a fluorescing chemical.

**Direct transmission:** Immediate transfer of an infectious agent from a reservoir to a host by direct contact or droplet spread.

**Disease:** An abnormal condition or functional impairment resulting from infection, metabolic abnormalities, physical or physiological injury, or other cause and marked by subjective complaints associated with a specific history, clinical signs and symptoms, and/or laboratory or radiographic findings. (Compare to, **Illness**).

**Disseminated disease:** Distributed over a large area, throughout an organ or throughout the body.

**Disseminated intravascular coagulation:** A pathological form of coagulation that is diffuse rather than localized. It involves blood clot formation in vessels throughout the body and can damage affected tissues.

**Droplet precautions:** Measures designed to reduce the risk of transmission of infectious agents via large particle droplets that do not remain suspended in air, usually generated by coughing, sneezing, or talking. Masks must be used, but gowns, gloves, and special air handling are not generally needed.

**Droplet-borne spread (droplet spread):** The direct transmission of an infectious agent by means of the droplets (or tiny drops) produced while sneezing, coughing, or talking.

**Duodenum:** The first part of the small intestine that connects the pylorus of the stomach to the jejunum.

**Dysphagia:** Difficulty swallowing or inability to swallow.

**Dysuria:** Difficulty or pain in urination.

**Edema:** A local or generalized condition in which the body tissues hold an excessive amount of fluid.

**Empyema:** Pus in a body cavity.

**Encephalitis:** Inflammation of the brain. This may occur because of a specific disease such as rabies, be caused by an arthropod-borne virus, or be a sequela of influenza, measles, rubella, chickenpox, herpes virus infection, or other diseases.

**Endemic:** The presence or the usual prevalence of a disease or infectious agent in a population within a given geographic area.

**Endocarditis:** Inflammation of the inner lining of the heart and the external lining of the valves.

**Enteric:** Pertaining to the gastrointestinal tract.

**Enteric precautions:** Measures designed to prevent direct or indirect fecal-oral transmission of disease. Gowns must be worn if soiling is likely, and gloves must be worn for touching contaminated materials; strict hand hygiene practices must also be applied. Masks are not indicated.

**Enterocolitis:** Inflammation of the intestines and colon.

**Enterotoxin:** Toxin produced in or originating in the intestine, causing abdominal pain, nausea, diarrhea, and vomiting.

**Enterovirus:** A grouping of viruses that enter the body through the gastrointestinal tract and multiply there, but may affect other organ systems such as the central nervous system. These viruses include polio, coxsackie, and echovirus.

**Enzootic:** The expected or usual prevalence of a disease or infectious agent in an animal population within a given geographic area (i.e., endemic in an animal population).

**Enzyme immunoassay (EIA):** A type of laboratory test in which an enzyme is bound to an antigen or an antibody so that when the complementary antibody or antigen is detected in a specimen, the enzyme serves as a label by causing a reaction (change in color or other signal).

**Enzyme-linked immunosorbent assay (ELISA):** A sensitive enzyme immunoassay technique for sero-diagnosis of specific diseases in which either an antibody or an antigen is bound to an enzyme in order to measure the level of, respectively, the complementary antigen or antibody in a blood sample through antigen-antibody complex formation. The resulting complex will retain both immunologic and enzymatic activity, and provides for the detection of either an antibody or an antigen (usually through a change in color of the assay).

**Epidemic:** A greater number of cases of an illness in a region or community than is normally expected. This number will vary according to the infectious agent, size of population exposed, previous experience or exposure to the disease (or lack of), and time and place of occurrence. (See also, **Outbreak**).

**Epidemiologist:** An investigator who studies the occurrence of disease or other health-related conditions or events in defined populations and who applies systematic principles and methods to the prevention and control of disease.

**Epidemiology:** Study of the distribution and determinants of health-related states and events in populations, and the application of this study to the control of health problems.

**Epidemiologically-linked:** Connected to another case by epidemiologic evidence, such as when there is substantial evidence that the illness spread to that person via direct or indirect contact, and the symptoms coincide with the incubation period for that particular disease.

**Epididymis:** A structure within the scrotum attached to the backside of the testis. The epididymis is a coiled segment of the spermatic ducts that serves to store, mature, and transport spermatozoa between the testis and the vas (the vas deferens).

**Epididymitis:** Inflammation of the epididymis.

**Epiglottitis:** Inflammation of the epiglottis.

**Epizootic:** An outbreak of disease in an animal population.

**Equivocal:** Uncertain as an indication or sign (e.g., equivocal test result for Lyme disease).

**Erythematous maculopapular rash:** A rash that has both flat, discolored regions (macules) and small elevated bumps (papules) and causes reddening of the skin (due to capillary dilation).

**Eschar:** A thick, coagulated crust or slough that may develop following a burn of the skin or scabbing of an ulcerated wound.

**Etiology:** The cause of a disease (i.e., type of bacteria, virus, toxin).

**Eukaryote:** A cell containing a membrane-bound nucleus with chromosomes of DNA, RNA, and proteins.

**Excretion:** The product of a tissue or organ that is material to be passed out of the body.

**Exotoxin:** A toxin produced by a microorganism and secreted into its surrounding. Exotoxins are produced by bacteria that cause diseases such as botulism, diphtheria, and tetanus.

**Exposure:** Sufficient proximity to or contact with an agent so effective transmission of the agent or harmful effects of the agent may occur. Sometimes used more loosely to mean any factor under investigation that may increase risk of disease.

**Extraintestinal:** Outside the intestine.

**Exudate:** Any fluid that oozes or passes gradually out of a tissue or its capillaries, more specifically, because of injury or inflammation.

**Febrile:** Denoting or relating to fever; feverish.

**Fecal-oral transmission:** Direct or indirect transmission of a disease-causing organism through the shedding of infected stools and contamination of a transmitting vehicle. Transmission can occur through food, water, or from person to person. Handwashing and good hygiene in general are important for preventing diseases that are spread via the fecal-oral route.

**Flaccid paralysis:** Loss of muscle tone and loss or reduction of tendon reflexes.



**Flavivirus:** A genus in the family *Flaviviridae* (composed of enveloped, single-stranded, positive sense RNA viruses), which includes the yellow fever, dengue, and St. Louis encephalitis viruses.

**Fluorescent antibody to membrane antigen (FAMA):** A type of serologic antibody test for chickenpox, which detects antibody to varicella zoster virus (VZV)-induced membrane antigen. This test is sensitive but time-consuming and is not readily available.

**Focal:** Localized or pertaining to a starting point.

**Fomite:** An inanimate object, such as a handkerchief or surgical scalpel, that serves to transfer an infectious agent from a source to a susceptible host.

**Food:** Any raw, cooked, or processed edible substance, ice, beverage, medication, or ingredient used, intended for use, or for sale in whole or in part for human consumption via the alimentary tract.

**Foodborne disease:** Illness resulting from ingestion of contaminated food.

**Foodborne pathogen:** Microorganism causing illness through ingestion of food.

**Food handler:** Any person directly preparing or handling food. This could include the food establishment owner, individual having supervisory or management duties, person on the payroll, family member, volunteer, person performing work under contractual agreement, or any other person working in a food handling facility. Any person who dispenses medications by hand, assists in feeding, or provides mouth care shall be considered a food handler for the purpose of these regulations. In health care facilities, this includes those who set up trays for patients to eat, feed or assist patients in eating, give oral medications, or give mouth/denture care. In day care facilities, schools and community residential programs, this includes those who prepare food for clients to eat, feed or assist clients in eating, or give oral medications.

**Food handling facility:** Any fixed or mobile place, structure or vehicle, whether permanent, seasonal, or temporary, in which food is prepared, processed, stored or held for sale, whether at retail or wholesale, or for service on the premises or elsewhere, or where food is served or provided to the public with or without charge. This term does not include private homes, where food is prepared or served for individual family consumption.

**Food handling facility employee:** Any person directly preparing or handling food. This could include the owner, an individual having supervisory or management duties, a person on the payroll, a family member, a volunteer, a person performing work under contractual agreement, or any other person working in a food handling facility. In health care facilities, this includes those who set up trays for patients to eat, feed or assist patients in eating, give oral medications or give mouth/denture care. In day care facilities, schools and community residential programs, this includes those who prepare food for clients to eat, feed or assist clients in eating, or give oral medications.

**Food poisoning:** Poisoning that results from eating foods contaminated with toxins. These toxins may occur naturally, as in certain mushrooms or seafood; they may be chemical or biologic contaminants; or they may be metabolic products of infectious agents that are present in the food.

**Fulminant:** Occurring suddenly and with great intensity or severity.

**Fungus (plural: fungi):** Molds and yeasts. Of the >100,000 known species of fungi, only a few cause disease in humans (*e.g.*, *Cryptococcus neoformans*, *Coccidioides immitis*).

**Gamma globulin (also human gamma globulin):** See **Immune Globulin (IG)**.

**Gastroenteritis:** Inflammation of the stomach and intestinal tract.

**Genitourinary:** Relating to the organs of reproduction and urination.

**Genome:** The complete set of genes of an organism.

**Genotype:** The basic genetic constitution of an organism, as determined by the combination of genes it possesses.

**Genus:** In biology, a category of classification for living organisms (Kingdom > Phylum > Class > Order > Family > Genus > Species). Usually, the first of the two Latin names cited for an organism. For example, in *Clostridium difficile*, *Clostridium* is the genus.

**Gestation:** In mammals, the length of time from conception to birth. This is specific to the particular species.

**Glomerulonephritis:** A group of kidney diseases involving the glomeruli, usually thought to be the result of antibody-antigen reactions that localize in the kidneys because of their filtering properties.

**Guillain-Barré Syndrome (GBS):** A rare neurologic disease characterized by loss of reflexes and temporary paralysis, usually beginning in the legs and moving up to the arms.

**Health care provider:** As defined in Massachusetts General Laws, Ch. 111, §1: "... any doctor of medicine, osteopathy, or dental science, or a registered nurse, social worker, doctor of chiropractic, or psychologist licensed under the provisions of chapter one hundred and twelve, or an intern, or a resident, fellow, or medical officer licensed under section nine of said chapter one hundred and twelve, or a hospital, clinic or nursing home licensed under the provisions of chapter one hundred and eleven and its agents and employees, or a public hospital and its agents and employees."

**Health care worker:** One who provides direct care to patients or who works in a setting where such care is provided.

**Hematuria:** Blood or red blood cells in urine.

**Hemolytic anemia:** Anemia resulting from the destruction of red blood cells; either congenital or caused by toxic chemicals or medications; obstruction of small blood vessels or autoimmunity.

**Hemolytic uremic syndrome (HUS):** Sudden rapid destruction of red blood cells that causes acute renal failure, due partly to the destruction of small arteries in the kidneys. This can occur in children who have serious cases of *E. coli* O157:H7.

**Hepatic:** Pertaining to the liver.

**Hepatitis:** Inflammation of the liver.

**Herd immunity:** The resistance of a group to spread of an infectious agent, based on the resistance to infection of a high proportion of individual members of the group. This resistance or protection is acquired after natural disease or immunization.

**Host:** Organism that is capable of being infected by a specific agent (e.g., a person infected by contaminated food).

**Hydrophobia:** Morbid fear of or aversion to water. Also the previously common name for rabies, symptoms of which include hydrophobia.

**Hyperemia:** Presence of an increased amount of blood flow in a part of the body.

**Hypertonia:** Extreme tension of the muscles or arteries.

**Hypotension:** A decrease in blood pressure below normal.

**Iatrogenic:** Denoting response (usually adverse) to medical or surgical treatment, induced by the treatment itself.

**Illness:** An abnormal condition or functional impairment resulting from infection, metabolic abnormalities, physical or physiological injury or other cause, marked by subjective complaints and clinical signs (compare to, **Disease**).



**Immune Globulin (IG):** A solution of antibodies (derived from pooled plasma of adults) that is effective in preventing disease (e.g., hepatitis A or measles) if given prior to exposure or in the early incubation period after exposure to the virus. Specific immune globulins ("hyperimmune globulin") are available for hepatitis B, rabies, and other diseases.

**Immunity:** Possession of protective antibodies or cellular components sufficient to protect from infection and/or illness, following exposure to an infectious agent (see also, **Resistance**).

**Immunoassay:** Measuring the protein and protein-bound molecules that are concerned with the reaction of an antigen with its specific antibody.

**Immunocompromised:** An immune system functioning in a less than optimal manner or at an overall reduced level. This may be due to genetic factors or acquired disease.

**Immunoglobulin (Ig):** One of a group of related proteins (gamma globulins) that act as antibodies. There are five classes of immunoglobulins with different functions: IgA, IgD, IgE, IgG, and IgM.

**Immunoglobulin G (IgG):** The principal immune globulin in human serum. It moves across the placenta, and therefore, is crucial in producing natural immunity in infants before birth.

**Immunoglobulin M (IgM):** A globulin formed in immune responses during the early period of a reaction.

**Immune individual:** A person who has specific protective antibodies or cellular immunity to a disease resulting from previous infection or immunization.

**Immunization, active:** Stimulation of the immune system against an invading organism through use of a vaccine, thereby producing antibody or cell-mediated immunity to neutralize or destroy the infecting agent.

**Immunization, passive:** Temporary immunity conferred by the injection of antiserum or immune globulin, or through the passage of antibodies through the placenta from mother to fetus. In addition, newborns acquire passive immunity through ingestion of breast milk.

**Immunofluorescent assay (IFA):** A laboratory technique that uses antibodies labeled with a fluorescent dye to determine the amount and distribution of antigens in a tissue. When observing the tissue microscopically with fluorescent light, evidence of the presence of the antigen can be seen.

**Inapparent infection (or asymptomatic infection):** Infection without symptoms.

**Incidence:** A general term used to characterize the frequency of new occurrences of a disease, infection, or other event over a period of time and in relation to the population in which it occurs. Incidence is expressed as a rate, commonly the number of new cases during a prescribed time in a unit of population. For example, one may refer to the number of new cases of tuberculosis per 100,000 population per year.

**Incidental host:** Host or species that is capable of being infected by an organism but that is not the usual or preferred host.

**Incubation period:** Time from ingestion or acquisition of a pathogen until symptoms occur in the human body.

**Indigenously transmitted:** Transmitted in the country or region of an individual or population.

**Infected individual:** An individual with a condition whereby the body or a part of the body is invaded by a pathogenic agent.

**Infection:** Invasion of the body by harmful organisms such as bacteria, fungi, protozoa, rickettsiae, or viruses.

**Infectious agent:** Disease-causing organisms such as bacteria, fungi, protozoa, rickettsiae, or viruses.

**Infectious period:** Time period during which one is capable of transmitting a disease to others.

**Infiltrates, patchy bilateral:** Radiologic pattern of whitish patchy areas scattered through both lungs, characteristic of some causes of pneumonia.

**Innervation:** Having lots of nerve cells.

**Insidious:** Developing gradually and subtly, usually referring to onset of disease.

**Interstitial edema:** The accumulation of excess fluid in the interspaces between cells and tissue.

**Intracytoplasmic morulae:** Solid masses of *Ehrlichia* organisms seen inside white blood cells, characteristic of *Ehrlichia* infection.

**Intermediate host:** The host in which a parasite is in a larval or asexual state. For example, in malaria, humans are intermediate hosts.

**Invasive:** The ability of a microorganism to enter the body and to spread throughout the tissues.

**Invasive infection:** Infection involving the bloodstream or internal organs, not including infection of the skin or mucous membranes. Invasive infection is usually established by the recovery of an etiologic agent from a usually sterile body fluid or tissue.

**Isolate:** *Verb:* To obtain a pure culture of an infectious agent, such as bacteria or viruses. *Noun:* A pure culture of an infectious agent.

**Isolation:** Separation, for the period of communicability, of infected persons from others in such places and under such conditions as will prevent the direct or indirect transmission of an infectious agent to susceptible people or to those who may spread the agent to others. This applies also to animals (compare to, **Quarantine**).

**Jaundice:** A condition characterized by yellowing of the skin, the whites of the eyes, mucous membranes, and body fluids due to an excess of bilirubin in the blood.

**Jejunum:** The second part of the small intestine, connecting the duodenum to the ileum.

**Laboratory:** A facility or place, however named, the purpose of which is to make biological, serological, chemical, immuno-hematological, cytological, pathological, or other examinations of materials derived from a human body. This includes laboratories in hospitals and in other facilities.

**Laboratory test diagnostic of HIV infection:** A laboratory test approved for clinical use by the U.S. Food and Drug Administration that indicates the presence of antibody to HIV, HIV structural components, or HIV ribonucleic acid in blood and in other body fluid.

**Lagomorph:** Of the order (Lagomorpha) that are gnawing herbivorous mammals with two pairs of incisors in the upper jaw. Head and body length ranges from 125–750 mm. Hares and rabbits have short tails with thick, soft fur; pikas do not have tails, and have long, soft, fine fur.

**Laminar hood:** Biosafety cabinet that maintains a negative pressure environment and consistent air flow inside the enclosure during operation, thus preventing contaminants from escaping the work area and infecting the individual.

**Larva (plural: larvae):** The developing form of an organism after it has emerged from the egg, before it develops into other stages, or eventually, into an adult.

**Latent:** Inactive or inapparent.

**Latex agglutination test (or latex fixation test):** A laboratory test in which latex particles are coated with a specific antibody or antigen and show an agglutination of particles that is visible to the naked eye if the antibody or antigen is present.

**Lesion:** An area of pathologically altered tissue; a wound or injury.

**Lymphadenitis:** Inflammation of the lymph nodes.

**Lymphadenopathy:** Enlargement (swelling) of the lymph nodes.

**Lymphocyte:** One of a variety of white blood cells present in the blood and lymphatic tissue. They are the main means of providing the body with immunity, and can be divided into *B-lymphocytes* which produce cells that produce antibodies and *T-lymphocytes* which are primarily responsible for cell-mediated immunity.

**Macular erythroderma:** Diffused redness of the skin associated with toxic shock syndrome and other causes.

**Macule:** A discolored spot or patch on the skin that can form a variety of shapes distinct from the surrounding normal skin surface.

**Maculopapular:** An eruption or rash consisting of both macules (discolored spots on the skin, neither elevated nor depressed) and papules (red, elevated areas on the skin, solid and circumscribed).

**Malabsorption:** A state in which nutritional absorption of one or more substances by the intestinal tract (especially the small intestine) is reduced.

**Malaise:** Discomfort, uneasiness, and/or fatigue.

**Median:** The central value of a series of measurements. When the series is arranged from smallest to largest, the median is the middle value. For test scores of 78, 83, 86, 88, and 88, the median value is 86.

**Medical surveillance:** See **Personal Surveillance**.

**Meninges:** The membranes that cover the brain and spinal cord.

**Meningoencephalitis:** Inflammation of the brain and the meninges.

**Mesenteric lymph nodes:** Lymph nodes in the tissue that connects the bowel to the abdominal wall.

**Microangiopathic hemolytic anemia:** A type of anemia that involves the physical destruction of red blood cells, in obstructed small blood vessels, resulting in fragments of red blood cells being found in the circulating system.

**Microangiopathy:** Disease or damage to the walls of the smallest blood vessels.

**Microcephaly:** Abnormal smallness of the head in relation to the size of the rest of the body. A congenital condition in which the brain is underdeveloped.

**Molecular characterization:** (See also, **Molecular Typing**.) Identification of a specific pathogen using methods (such as pulsed-field gel electrophoresis) that distinguish organisms at the DNA (or RNA) level.

**Molecular typing:** See Molecular characterization.

**Monovalent:** When used in reference to a vaccine, a monovalent vaccine is one that contains a single antigen (e.g., hepatitis A vaccine or hepatitis B vaccine).

**Mucocutaneous:** Relating to mucous membrane and skin; denoting the line of junction of the two at the nasal, oral, vaginal, and anal orifices.

**Myalgia:** Pain in the muscles.

**Nasal mucosa:** Mucosal tissue lining the inside nose, consisting of epithelium, lamina, and propria.

**Nasopharynx:** Upper part of the pharynx, behind the nasal passages.

**Neonate:** A newborn infant during the first month of life, or < 28 days old.

**Neoplastic disease:** Disease pertaining to the formation of abnormal tissue; tumor. May be either benign or malignant.

**Neuralgia:** Severe sharp pain found along the course of a nerve.

**Neurotoxin:** A toxin that attacks nerve cells.

**Neurotropic:** Having an affinity for the nervous system.

**Nodule:** A small aggregation or knot of tissue.

**Noncardiogenic pulmonary edema:** The accumulation of fluid in the lung, not originating from dysfunction of the heart.

**Non-name reporting system:** A department-designed reporting system for cases of infection with human immunodeficiency virus (HIV) that contains no patient identifying information and protects the confidentiality of the patient in compliance with M.G.L. c. 111, §70F.

**Nosocomial infection:** Infection acquired in a hospital.

**Notifiable disease:** A disease that, by law or statute, must be reported to public health authorities when diagnosed. Also known as **Reportable Disease**.

**Nymph:** Earliest stage of certain arthropods after hatching or after a larval stage.

**Obtund:** To dull or blunt, especially to blunt sensation or pain.

**Ocular:** Of or concerned with the eyes or vision.

**Oocyst:** A spherical structure that develops after sexual reproduction of a parasite containing egg cells capable of producing parasites.

**Opportunistic infections:** Infections that result from a weakened or compromised immune system that cannot defend against pathogens normally found in the host's environment.

**Orchitis:** Inflammation of the testis.

**Oropharyngeal:** Central portion of the throat lying below the soft palate at the back of the mouth.

**Orthopoxvirus:** A group (genus) of viruses of the family *Poxviridae*, comprised of the viruses of alastrim, vaccinia, variola, cowpox, extromelia, monkeypox, and rabbitpox.

**Orthostatic:** In an erect position.

**Osteomyelitis:** Inflammation of bone.

**Otitis:** Inflammation of the ear.

**Outbreak or cluster:** The occurrence in a community, facility, workplace, or region of cases of an illness clearly in excess of the number of cases usually expected. The number of cases indicating an outbreak or cluster will vary according to the infectious agent or the site conditions/hazards, size and type of population exposed, previous experience or lack of exposure to the disease, and time and place of occurrence. Outbreaks or clusters are therefore identified by significant increases in the usual frequency of the disease in the same area, among the specified population, at the same season of the year.

**Pallor:** Paleness or lack of color.

**Pandemic:** An epidemic that affects multiple geographic areas at the same time.

**Papule:** An elevated red area on the skin that is solid and circumscribed.

**Papulovesicular:** The presence of both papules (red area on the skin, solid and circumscribed) and vesicles (a blister-like area on the skin containing fluid).

**Paresis:** Partial or incomplete paralysis.

**Parainfluenza viruses:** A group of viruses that cause acute respiratory infections in humans, especially children.

**Parasite:** An organism living on or within an animal of another species, from which it obtains nutrients.

**Parenteral:** Referring to route of exposure other than the alimentary canal, such as intravenous, subcutaneous, intramuscular, or mucosal.

**Paresthesia:** Sensation of tingling, prickling, and numbness.

**Parotid:** Salivary gland located in the cheek beside the ear.

**Paroxysmal coughing:** Sudden, violent fits of cough, often a symptom of pertussis.

**Paroxysmal symptom:** Rapid recurrence or intensification of a symptom(s).

**Pasteurize:** Heating of milk, fruit juices, etc., for enough time (usually about 30 minutes) and at sufficient temperature (about 68°C) to destroy bacteria without changing the chemistry of the food.

**Patent ductus arteriosus:** Persistence of the connection between the main pulmonary artery and the aorta after birth. This connection (or failure of the ductus to close) results in a continuous heart murmur.

**Pathogen:** An organism capable of producing a disease (e.g., a virus, bacterium, or other microorganism).

**Pathogenic:** Capable of causing disease. Often applied to a parasitic microorganism in relation to its host.

**Pathogenicity:** Capacity of an agent to cause disease in an infected host.

**Pathognomic:** Characteristic or indicative of a disease; referring to the presence of one or more typical symptoms, or findings or a pattern of abnormalities specific for a given disease and not found in any other condition.

**Percutaneous:** Effected through the skin. Often pertains to topical ointments or the injection/removal of fluid by a needle.

**Pericarditis:** Inflammation of the pericardium (membrane enclosing the heart).

**Perinatal (-ly):** Occurring during the time period between the 28<sup>th</sup> week of gestation through the first 7 days after delivery.

**Peripheral:** Anatomically, pertaining to the periphery or occurring away from the center (i.e., the limbs, fingers, and toes).

**Peripheral pulmonary artery stenosis:** A form of congenital heart disease with constrictions of the pulmonary artery that occurs in a child whose mother contracted rubella.

**Permucosal exposure:** Exposure through mucous membrane (i.e., the moist tissue layer that lines the mouth, nasal passages and hollow organs).

**Personal surveillance:** The practice of close medical or other supervision of contacts without restricting their movements in order to promote prompt recognition of infection or illness.

**Petechial:** Having the appearance of flea bites or small red spots, as in petechial rash.

**pH:** An expression, based on the concentration of hydrogen ions, used to indicate the degree of acidity or alkalinity of a substance: pH 7 is neutral; acids have pH less than 7; bases have pH greater than 7.

**Pharyngitis:** Inflammation of the pharynx.

**Photophobia:** Aversion to or intolerance of light. Often occurs in cases of measles, rubella, and meningitis.

**Pigmentary retinopathy (also retinitis pigmentosa):** A condition involving progressive degeneration and pigmentary infiltration of the retina, leading to atrophy and the formation of irregular patches of dark pigment in the retina.

**Plasma (see also, serum):** The straw-colored, noncellular portion of circulating blood.

**Platelet (also, thrombocyte):** Small, disk-shaped structure found in the blood that plays an important role in clotting.

**Pleura:** The serous membrane that covers both the lungs and the inner surface of the chest wall.



**Pleural fluid:** The fluid that is secreted into the pleura to reduce friction during breathing. Abnormal amounts of fluid in the chest cavity evident on physical examination, chest x-ray or other imaging techniques.

**Point source:** A source of common exposure over a brief period of time. In a point-source epidemic, all cases should occur within a single incubation period.

**Polymerase chain reaction (PCR):** A laboratory technique used for identification of specific organisms or specific genes, using in vitro amplification of specified strands of DNA or RNA together with a method for identifying the specified strands.

**Polymorphism:** Appearing in many forms.

**Prevalence:** The number of individuals with a particular disease, disability, behavior or other characteristic in a specific population at a given time.

**Prodrome:** Symptoms which indicate that disease onset is imminent or the time period in which such early symptoms occur. For a rash-producing illness, this would be the period of time between the earliest symptoms of illness (like fever, headache, and malaise) and the onset of the characteristic rash.

**Prophylaxis:** The administration of a drug or biologic agent to prevent the development of an infection or to limit the progression of an infection.

**Prostrate:** Lying with body extended flat on the ground, face down.

**Proteinuria:** The presence of an abnormal amount of protein in the urine.

**Protozoan (plural: protozoa):** Microscopic single-celled animals.

**Pruritus:** Itching, itchiness. May accompany allergic response and/or some diseases, or may be due to skin contact with soap, hot weather, etc.

**Ptosis:** Drooping of the upper eyelid.

**Pulmonary artery stenosis:** A narrowing (stricture) in the pulmonary artery.

**Pulsed-field gel electrophoresis (PFGE):** A laboratory technique used for identification or comparison of organisms (to determine their DNA molecular relatedness), involving fragmentation of the organism's DNA using a specified enzyme (or set of enzymes) followed by separation of the resulting fragments on a gel using pulsed electric currents (of varying direction) and analysis of the resulting pattern of fragments.

**Purpura:** A condition characterized by bleeding into the skin and other tissues from the small capillaries in the body; bruise.

**Pursuant:** Following from or in conformity with. For example, reporting mechanisms need to be followed by Boards of Health "pursuant" or according to *105 CMR 300* in the *Isolation and Quarantine Regulations*.

**Purulent:** Containing, consisting of, or forming pus.

**Pus:** Fluid containing large numbers of reactive white blood cells.

**Pustule:** A blister in the skin containing pus.

**Pyrogenic:** Producing fever.

**Pyuria:** Abnormal amount of pus or white blood cells in the urine.

**Quarantine:** Restricting the freedom of movement of well persons or domestic animals who have been exposed to a communicable disease for a period of time relating to the usual incubation period of the disease, in order to prevent effective contact with those not so exposed (compare to, **Isolation**).

**Radioimmunoassay (RIA):** A laboratory method for detecting or quantitating antigens or antibodies using reactants that are radioactively labeled.

**Radiolucent bone disease:** A condition resulting in reduced bone density, which is clinically indicated by a dark area on the radiograph.

**Reciprocal titer:** The antibody titer expressed as a ratio of one divided by the titer (e.g., for a titer of 1:128, the reciprocal titer would be 128 [ $1 \div 1/128 = 128$ ]).

**Recombinant immunoblot assay (RIBA):** A laboratory test that detects antibody to the hepatitis C virus. This test does not differentiate between acute, chronic, or past infection.

**Renal:** Pertaining to the kidneys.

**Reportable disease:** See **Notifiable Disease**.

**Report of a disease:** An official notice to the appropriate authority of the occurrence of a specified disease in people or animals, directly by telephone, in writing, by facsimile, or by electronic means.

**Reservoir (of an infectious agent):** Any person, animal, arthropod, plant, soil, or substance wherein an infectious agent lives and multiplies. The natural habitat of the infectious agent.

**Resistance:** The sum total of body mechanisms which interpose barriers to the progress of invasion or multiplication of infectious agents or to damage caused by their toxic products.

A. Immunity is resistance that is usually associated with the possession of antibodies or cells having a specific activity against the etiologic agent of an infectious disease. Passive immunity is attained either naturally by maternal transfer or artificially by introducing specific protective antibodies. Passive immunity is of brief duration. Active immunity is attained by infection, with or without symptoms, or by introducing certain fractions or products of the infectious agent or the agent itself in a killed, modified, or variant form.

B. Natural resistance is the ability to resist disease independently of antibodies or a specific cellular response. It commonly rests in anatomic, cellular or physiologic characteristics of the host. It may be genetic or acquired, permanent or temporary.

**Respiratory hygiene/cough etiquette:** Measures to prevent the transmission of all respiratory infections, including covering of the nose/mouth when coughing or sneezing, use and safe disposal of tissues, and hand hygiene.

**Respiratory precautions (also droplet precautions, respiratory isolation):** Attempts to prevent large droplet and small-particle airborne transmission of organisms by using masks for susceptibles. Gowns and gloves are not necessary.

**Retroviruses:** Any virus of the family *Retroviridae*; these are RNA-containing viruses, some of which are oncogenic and induce sarcomas, leukemias, lymphomas, and mammary carcinomas in certain animals; also includes HIV.

**Reverse transcriptase polymerase chain reaction (RT-PCR):** A laboratory PCR technique used for identification of strands of RNA or of RNA organisms, involving as a key step the conversion of RNA to complementary DNA using reverse transcription.

**Reye syndrome:** A rare, sometimes fatal disorder characterized by encephalopathy, often combined with liver failure, usually occurring in children under 16 years of age after an acute viral infection. The etiology is unknown, but aspirin has been implicated as a factor.

**Rheumatology:** The division of medicine dealing with the diagnosis and management of disease involving joints, tendons, muscles, ligaments, and those related structures.

**Ribonucleic acid (RNA):** A nucleic acid that is present in all living cells, is involved in protein synthesis, and provides the genetic information in certain viruses (e.g., hepatitis C virus).

**Rickettsia:** Infectious bacteria that cannot reproduce outside host cells. Rickettsia infect mammals (including humans) through arthropod vectors to cause such diseases as Rocky Mountain spotted fever and typhus; or by inhalation in the case of Q fever (*Coxiella burnetii*).

**Risk:** The probability of an individual developing a given disease or experiencing a change in health status over a specific period of time.

**Salicylate:** Aspirin and related compounds.

**Sclera:** The white fibrous tissue that covers the eye.

**Secondary case:** An individual who is infected through contact with a primary case of the disease.

**Secondary infection:** An infection caused by a second organism following a primary infection (e.g., bacterial pneumonia compounding influenza).

**Secretion:** The solid, liquid, or gaseous product of cellular or glandular activity that is stored in or used by the organism in which it is produced.

**Sensitivity:** The ability of a test or surveillance system or case definition to detect a true case of the disease (i.e., the proportion of people with the disease or condition that are identified by the test, system, or definition).

**Sentinel event:** A harbinger or indicator of the presence of an infectious agent or health problem in the population.

**Sepsis:** Overwhelming infection usually characterized by fever and evidence of multi-organ impairment.

**Septicemia:** Systemic disease caused by the presence of microorganisms or their toxins in the bloodstream.

**Sequela (plural: sequelae):** A health condition that follows as a consequence of a disease.

**Sera:** Plural of “serum.”

**Seroconversion:** The development of specific antibodies in response to infection or vaccine.

**Serologic confirmation:** Blood test documenting the presence of antibodies and hence exposure to or immune protection against a certain infection.

**Serologic marker:** Antibody evidence of exposure to or infection with a potential agent.

**Serotype (or Serogroups):** A subdivision of microorganisms distinguishable from other strains by the pattern of antibodies that react with component antigens.

**Serum:** The straw-colored fluid that separates from coagulated blood after blood is allowed to stand (see also, **Plasma**).

**Serovar:** A subdivision of a species or subspecies distinguishable from other strains on the basis of antigenicity (also called a **Serotype**).

**SIA:** See **Strip Immunoblot Assay**.

**Silage:** Feed for livestock (prepared by storing and fermenting green forage plants in a silo).

**Species:** In biology, the smallest category of classification for living organisms (Kingdom > Phylum > Class > Order > Family > Genus > Species). Usually, the second of the two Latin names cited for an organism. For example, in *Clostridium difficile*, *difficile* is the species.

**Spirochete:** Bacteria characterized structurally by flexible, undulating, spiral-shaped rods lacking a rigid cell wall. Includes *Treponema pallidum*, the causative agent of syphilis.

**Splenomegaly:** Enlargement of the spleen.

**Spore:** A reproductive cell, usually unicellular, produced by plants, some protozoa, and certain bacteria. Spores of bacteria are difficult to destroy because they are very resistant to heat and require prolonged exposure to high temperatures to destroy them.

**Standard precautions:** Refers to consistent and prudent preventive measures to be used at all times regardless of patient's infection status. The MDPH adopts, by reference, as standard precautions for infection control, the most current version of the guidelines on the prevention of transmission of infection published by the U.S. Centers for Disease Control and Prevention (CDC) and its Healthcare Infection Control Practices Advisory Committee.

**Sterile site (or normally sterile site):** An area of the body normally free of microorganisms, such as bone or circulatory system.

**Strip immunoblot assay (SIA):** A laboratory test that detects antibody to the hepatitis C virus. This test does not differentiate between acute, chronic, or past infection.

**Sub-clinical:** Denoting the presence of a disease without manifest symptoms; may be an early stage in the evolution of a disease.

**Subcutaneous:** Fatty layer beneath the skin and above the muscle. This is often where an injection can be introduced, as in a subcutaneous injection.

**Surveillance:** The collection, collation, analysis, and dissemination of information.

**Surveillance of Disease:** Monitoring the occurrence and spread of disease and indications of such occurrence and spread.

**Susceptible:** A person or animal not possessing resistance to a pathogenic agent. Such a person or animal is liable to contract a disease if or when significantly exposed to such agent.

**Suspect case:** A person or animal with clinical and/or laboratory evidence suggestive of the existence of a disease or condition dangerous to the public health but prior to the confirmation of such a diagnosis.

**Symmetry:** Correspondence in shape, size and position of opposite parts of an organ or opposite sides of the body.

**Symptomatic:** Reporting a perceptible change in the function, appearance, or sensation of the body indicative of disease.

**Syndrome:** A group of symptoms and clinical manifestations characteristic of a particular disease process.

**Systemic:** Relating to or affecting the body as a whole rather than one of its parts.

**Terrestrial:** Pertaining to the earth; in reference to animals, refers to ground-dwelling species.

**Thrombocytopenia:** A condition in which there is an abnormal reduction in the number of platelets (thrombocytes) in the blood. This creates bleeding into the skin, spontaneous bruising, and prolonged bleeding post-injury.

**Thrombotic thrombocytopenic purpura (TTP):** An often fatal condition, usually in adults, characterized by bleeding into the skin and elsewhere, deficit of platelets, and blood clots that obstruct blood vessels, particularly in the kidneys and the central nervous system. (Similar to HUS in children.)

**Titer:** Quantity, as indicated by the maximum dilution of which activity in a test system persists. An antibody titer of 1:128 represents antibody activity remaining at a dilution of 1:128 of the fluid being tested.

**Toxigenic (also Toxinogenic):** The ability of an organism to produce toxin.

**Toxoid:** A toxin that has been treated (commonly with formaldehyde) so as to destroy its toxic property but retain its antigenity (i.e., its capability of stimulating the production of antitoxin antibodies and thus of producing an active immunity).

**Trophozoite:** A stage of a parasite.

**Ubiquitin:** A small protein found in all eukaryotic cells that is involved in histone modification and in intracellular protein breakdown.

**Unusual illness:** An illness, by any indication, occurring for the first time or under rare circumstances, or an illness associated with signs and symptoms not otherwise expected to occur based on the known or presumed etiology of the illness.

**Urticaria:** An acute or chronic allergic reaction that produces an itchy, red wheal-like rash whose lesions range in size from very small spots to several inches in diameter.

**Vector:** An insect or any living carrier that transports an infectious agent from an infected individual or its wastes to a susceptible individual or its food or immediate surroundings

**Vehicle:** An inanimate object such as food, water, surgical scalpel, or handkerchief that transports an infectious agent from a reservoir or source of infection to a susceptible host. (See also, **Fomite**.)

**Venipuncture:** Puncture of a vein for any purpose, such as extracting blood for testing.

**Vesicular:** Pertaining to vesicles (i.e., a small blister in the skin containing fluid).

**Vesiculopustular:** Having both vesicles (blisters) and pustules (small elevation of skin filled with lymph or pus).

**Viremia:** The presence of a virus in the bloodstream.

**Virulence:** The ability of an agent to produce infection, sometimes measured as the proportion of cases that are severe. (Compare to, **Pathogenicity**.)

**Virus:** An agent that replicates itself only within living cells. The basic structure of a virus is a protein coat surrounding genetic material consisting of either RNA or DNA.

**Western blot:** A technique used for analyzing protein antigens or identifying antibodies. Antigens are first separated by electrophoresis on a gel and then they are transferred from the gel to a thin, rigid support (such as paper or nitrocellulose) by blotting. The blots are then reacted with known labeled antibody or with serum of other fluid containing antibody that is subsequently labeled.

**Wild-type virus:** “Natural” virus, in contrast to strains of virus modified (usually weakened) in the laboratory and used, for example, in certain vaccines.

**Work-related disease:** A disease or condition which is believed to be caused or aggravated by conditions in the individual’s workplace.

**Zoonotic:** Infectious disease of animals that can be transmitted to humans.